Name:_____ Date:_____

A2&T: Solving higher degree polynomials

Do Now

1. Express in simplest form, along with restrictions: $\frac{x^2+3x-10}{6x-2x^2}\cdot\frac{4x-x^2}{x^2+x-20}\div\frac{2x-x^2}{x-3}$

2. Express in simplest form: $\frac{1+\frac{1}{y}-\frac{6}{y^2}}{1+\frac{11}{y}+\frac{24}{y^2}}$

Practice: Answer all questions on a separate sheet of paper.

Exercises:
Solve the following polynomial equations.

1. $x^4 = 13x^2 - 36$
2. $t^5 - 10t^3 + 21t = 0$
3. $(x^2 + 5x - 7)(x + 2) = 0$
4. $x^4 - 20x^2 + 64 = 0$
5. $x^5 - 12x^3 + 32x = 0$
6. $(x^2 + 4x + 1)(x^2 - 9) = 0$
7. $x^4 = 29x^2 - 100$
8. $x^5 - 10x^3 + 9x = 0$
9. $(x^2 + 9)(x + 3) = 0$
10. $x^3 - 2x^2 + 9x - 18 = 0$
11. $x^3 + 7x^2 + 10x = 0$
12. $(x^2 - 1)(3x^2 + 2x + 1)$
13. $x^5 - x^4 - 2x^3 = 0$
14. $x^4 + 5x^2 = -4$
15. $16x^4 = 1$
16. $x^4 - 81 = 0$